AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) ~~Improved~~ A method for production of a rotor ~~(10)~~ of a centrifugal compressor~~, wherein the said rotor (10) is produced~~ from a monolithic disc~~, characterised in that the~~ comprising: working said disc ~~is worked~~ in a first radial direction by at least one tool ~~(20)~~ of a numerical control machine, such as to remove shavings~~, so as~~ and to thereby produce partial radial cavities ~~(12)~~ in the said rotor ~~(10).~~; and

working each disc in a second radial direction by at least one other tool of a numerical control machine such as to remove shavings and thereby produce complete radial cavities.

2. (Currently Amended) ~~Improved~~ A method according to claim 1~~, characterised in that a~~ wherein said first tool ~~(20)~~ works, starting from an outer diameter of the said disc, until ~~an~~ said outer ~~portion of the said~~ partial radial ~~cavity (12) is~~ cavities are produced.

3. (Currently Amended) ~~Improved~~ A method according to claim 2~~, characterised in that the~~ wherein said first tool ~~(20)~~ advances with successive terracing operations, and works until an intermediate depth is reached relative to an overall width of a circular ring of the said monolithic disc.

4. (Currently Amended) ~~Improved~~ A method according to claim 3~~, characterised in that a~~ wherein said second tool ~~(20)~~ works, starting from an inner diameter of the said disc, until it reaches ~~the~~ said outer ~~cavity, thus completing the said radial cavity (12)~~ partial cavities.

5. (Currently Amended) ~~Improved~~ A method according to claim 4~~, characterised in that the~~ wherein said first tool ~~(20)~~ and the said second tool ~~(20)~~ are the same tool ~~(20)~~ of the said numerical control machine.

6. (Currently Amended) ~~Improved~~ A method according to claim 4~~, characterised in that the~~ wherein said first tool ~~(20)~~ and ~~the~~ said second tool ~~(20)~~ work simultaneously, the said tools ~~(20)~~ being arranged on two axes which are controlled by at least one numerical control machine.

7. (Currently Amended) ~~Improved~~ A method according to claim 1~~, characterised in that a~~ wherein said second tool ~~(20)~~ works from an inner diameter of the said disc, until ~~an~~ inner portions of the said radial ~~cavity (12) is~~ cavities are produced.

8. (Currently Amended) ~~Improved~~ A method according to claim 7~~, characterised in that~~ wherein the said second tool ~~(20)~~ advances with successive terracing operations and works until an intermediate depth is reached relative to an overall width of a circular ring of the said monolithic disc.

9. (Currently Amended) ~~Improved~~ A method according to claim 8~~, characterised in that a~~ wherein said first tool ~~(20)~~ works starting from an outer diameter of the said disc, until it reaches ~~the~~ said inner ~~cavity~~ portions of said cavities, thus completing the said radial ~~cavity (12)~~ cavities.

10. (Currently Amended) ~~Improved~~ A method according to claim 9~~, characterised in that the~~ wherein said first tool ~~(20)~~ and ~~the~~ said second tool ~~(20)~~ are the same tool ~~(20)~~ of ~~the~~ said numerical control machine.

11. (Currently Amended) ~~Improved~~ A method according to claim 6~~, characterised in that,~~ wherein before working with the said tools ~~(20)~~, a preliminary stage is activated in order to ~~determine the feasibility of the working, i.e. to~~ ascertain whether there will be superimpositions of ~~the~~ said first and second tools ~~(20)~~ during working.

12. (Currently Amended) ~~Improved~~ A method according to claim 11~~, characterised in that, if there are~~ wherein in the event of superimpositions, an abnormality is indicated, ~~and this interrupts~~ interrupting a working programme of the numeral control machine.

13. (Currently Amended) ~~Improved~~ A method according to claim 1~~, characterised in that~~ wherein said first and second tools ~~(20)~~ are used in succession, starting with the shortest ~~from amongst those available~~ in length.

14. (Currently Amended) ~~Improved~~ A method according to claim 1~~, characterised in that~~ wherein said first tool comprises a blade, and a diameter of the said first tool ~~(20)~~ is selected according to a radius of connection at the base of the blade.

15. (Canceled)

16. (Currently Amended) ~~Improved~~ A method according to claim ~~15, characterised in that,~~ 1 wherein after a first stage of ~~so-called pocketing, which is~~ removing shavings is carried out with a single inclination of ~~the~~ an axis of the said tool ~~(20)~~ until a maximum depth is reached, ~~also using the possibility of working with an undercut owing to the design of the said tool (20),~~ a command is transmitted to ~~the axis to~~ take ~~the~~ said tool ~~(20)~~ to a different inclination.

17. (Currently Amended) ~~Improved~~ A method according to claim 16~~, characterised in that the~~ said different inclination is implemented by a numerical control machine which has five controlled axes.

18. (Currently Amended) ~~Improved~~ A method according to claim 1, ~~characterised in that,~~ wherein after the said working to remove shavings, the said rotor ~~(10)~~ is subjected to heat treatment.

19. (Currently Amended) ~~Improved~~ A method according to claim 18~~, characterised in that the~~ wherein said heat treatment is followed by stages of checking of the dimensions, balancing, and dynamic checking of the said rotor ~~(10)~~.

20. (Currently Amended) ~~Improved~~ A method according to claim 1~~, characterised in that the~~ wherein said rotor ~~(10)~~ is made of steel.

21. (Canceled)